

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA

THE REGENTS OF THE UNIVERSITY OF  
CALIFORNIA, ABBOTT MOLECULAR INC., and  
ABBOTT LABORATORIES INC.,

No. C 05-03955 MHP

Plaintiffs,

v.

DAKO NORTH AMERICA, INC. and DAKO A/S,

Defendants.

**MEMORANDUM & ORDER**  
**Re: Motion for Summary Judgment**

Plaintiffs The Regents of the University of California (“UC Regents”), Abbott Molecular Inc., and Abbott Laboratories Inc. (collectively, “Abbott”) brought this patent infringement action against defendants Dako North America, Inc. and Dako A/S (collectively, “Dako”), alleging infringement of two United States patents related to in situ DNA hybridization. Now before the court is Dako’s motion for summary judgment of noninfringement. Having considered the parties’ arguments and submissions, and for the reasons set forth below, the court enters the following memorandum and order.

**BACKGROUND**

The history of this litigation and the nature of the technology at issue are already discussed in some detail in the court’s previous orders and need not be repeated in full here. The following summary is sufficient for purposes of resolving Dako’s motion.

1 Abbott holds the two patents at issue in this lawsuit, U.S. Patent No. 5,447,841 (the “‘841  
2 patent”) and U.S. Patent No. 6,596,479 (the “‘479 patent”). The two asserted patents have  
3 substantially identical specifications but were issued almost eight years apart and have different  
4 claims. Both patents relate to the identification and analysis of target genes in a tissue sample  
5 through DNA hybridization. In DNA hybridization, sections of nucleic acid that are labeled, usually  
6 with a fluorescent dye (“hybridization probes”), are bonded to complementary “target” regions of  
7 chromosomal DNA—typically, sections which encode a protein of interest. See, e.g., ‘841 patent at  
8 cols. 2–3. The fluorescent label provides visual confirmation of the presence of the target gene. Id.

9 Dako manufactures diagnostic kits which make use of DNA hybridization to determine the  
10 presence and frequency of certain genes of interest, as well as information about whether genes of  
11 interest have undergone translocation. The accused products differ in some respects, but share two  
12 relevant characteristics. First, the parties do not dispute that each accused product employs a  
13 mixture of labeled probes which includes both unique sequence and repetitive sequence fragments,  
14 as construed by this court. Second, the parties agree that each accused product uses a synthetic  
15 compound called “PNA” to block the binding of repeat sequence fragments to the target  
16 chromosomal DNA.

17 Abbott filed this lawsuit on September 29, 2005 and moved for a preliminary injunction on  
18 October 17. In connection with the motion for a preliminary injunction, the parties proposed  
19 definitions for certain critical terms in the patent. The court construed the phrase “morphologically  
20 identifiable cell nucleus” (in the ‘479 patent) and “morphologically identifiable . . . cell nucleus” (in  
21 the ‘841 patent) to mean “a single cell nucleus that contains the full complement of chromosomal  
22 DNA.” The court also considered the meaning of the phrase “heterogeneous mixture of labeled  
23 unique sequence nucleic acid fragments,” found in claim 1 of the ‘479 patent. On the incomplete  
24 record available at the time of resolving the motion for a preliminary injunction, the court concluded  
25 that the recited “heterogeneous mixture” could not include repeat sequence fragments. In light of  
26 the court’s preliminary claim construction, questions regarding the validity and enforceability of the  
27 asserted patents, and the apparent adequacy of monetary damages, the court denied Abbott’s motion  
28

1 for a preliminary injunction. Abbott's interlocutory appeal of the denial, including the proposed  
2 constructions of "morphologically identifiable cell nucleus" and "heterogeneous mixture of labeled  
3 unique sequence nucleic acid fragments," is currently pending before the Federal Circuit.

4 The parties subsequently submitted proposed constructions for the remaining disputed claim  
5 terms, which this court construed in a recently issued order. Relevant to the instant motion, the court  
6 revised its construction of the phrase "heterogeneous mixture of labeled unique sequence nucleic  
7 acid fragments" to mean "a heterogeneous mixture of labeled nucleic acid fragments that includes  
8 unique sequence fragments." The parties have also stipulated that the phrase "nucleic acid" does not  
9 literally encompass the synthetic PNA which the accused products employ to block the binding of  
10 repeat labeled fragments.

11 Simultaneously with the claim construction briefing, Dako filed the instant motion for  
12 summary judgment. Dako based its motion on the court's preliminary constructions of  
13 "morphologically identifiable cell nucleus" and "heterogeneous mixture of labeled unique sequence  
14 nucleic acid fragments," as well as the stipulation that "nucleic acid" does not literally encompass  
15 PNA. Abbott opposes the motion on the merits, and further moves for postponement of the motion  
16 and additional discovery under Federal Rule of Civil Procedure 56(f).

## 17 18 LEGAL STANDARD

### 19 I. Summary Judgment

20 Summary judgment is proper when the pleadings, discovery and affidavits show that there is  
21 "no genuine issue as to any material fact and that the moving party is entitled to judgment as a  
22 matter of law." Fed. R. Civ. P. 56(c). Material facts are those which may affect the outcome of the  
23 case. Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986). A dispute as to a material fact is  
24 genuine if there is sufficient evidence for a reasonable jury to return a verdict for the nonmoving  
25 party. Id. The party moving for summary judgment bears the burden of identifying those portions  
26 of the pleadings, discovery, and affidavits that demonstrate the absence of a genuine issue of  
27 material fact. Celotex Corp. v. Cattrett, 477 U.S. 317, 323 (1986). On an issue for which the  
28

1 opposing party will have the burden of proof at trial, the moving party need only point out “that  
2 there is an absence of evidence to support the nonmoving party’s case.” Id.

3 Once the moving party meets its initial burden, the nonmoving party must go beyond the  
4 pleadings and, by its own affidavits or discovery, “set forth specific facts showing that there is a  
5 genuine issue for trial.” Fed. R. Civ. P. 56(e). Mere allegations or denials do not defeat a moving  
6 party’s allegations. Id.; Gasaway v. Northwestern Mut. Life Ins. Co., 26 F.3d 957, 960 (9th Cir.  
7 1994). The court may not make credibility determinations, and inferences to be drawn from the  
8 facts must be viewed in the light most favorable to the party opposing the motion. Masson v. New  
9 Yorker Magazine, 501 U.S. 496, 520 (1991); Anderson, 477 U.S. at 249.

10 The moving party may “move with or without supporting affidavits for a summary judgment  
11 in the party’s favor upon all or any part thereof.” Fed. R. Civ. P. 56(a). “Supporting and opposing  
12 affidavits shall be made on personal knowledge, shall set forth such facts as would be admissible in  
13 evidence, and shall show affirmatively that the affiant is competent to testify to the matters stated  
14 therein.” Fed. R. Civ. P. 56(e).

## 15 16 II. Patent Infringement

17 Determination of infringement is a two-step process. First, the court must determine the  
18 meaning of the language of the claims, a question of law. Markman v. Westview Instruments, Inc.,  
19 517 U.S. 370, 384 (1996). Second, the finder of fact must compare the construed claims to the  
20 accused product, to determine if each claim element is present, either literally or under the doctrine  
21 of equivalents. Irdeto Access, Inc. v. Echostart Satellite Corp., 383 F.3d 1295, 1299 (Fed. Cir.  
22 2004).

1 DISCUSSION

2 I. '479 Patent

3 A. Construction of "heterogeneous mixture of labeled unique sequence nucleic acid  
 4 fragments"

5 Dako filed its summary judgment motion based on the court's observations in the  
 6 preliminary injunction as to the likely construction of "heterogeneous mixture of labeled unique  
 7 sequence nucleic acid fragments." The court revised its interpretation of this phrase in light of the  
 8 more thorough claim construction briefing submitted by the parties, ultimately accepting Abbott's  
 9 argument that the word "of," read in the context of the dependent claims of the '479 patent, should  
 10 be construed to mean "comprising." Although the court expressed concerns about adopting the  
 11 broad construction proposed by Abbott—particularly in light of the inoperative subject matter  
 12 encompassed in Abbott's interpretation of the claim—the court found that the relationship among  
 13 the independent and dependent claims provided clear evidence that the patentee intended to allow  
 14 the heterogeneous mixture recited in claim 1 to include repetitive as well as unique fragments.

15 In the briefs accompanying the instant motion, however, Dako has discussed additional  
 16 excerpts from the prosecution history which call the court's previous construction into question.  
 17 The excerpts were included in the declarations accompanying the parties' Markman submissions but  
 18 were not cited in the accompanying briefs or highlighted at argument.<sup>1</sup> The cited excerpts follow the  
 19 development of the claims of the '479 patent in some detail, and bear careful review.

20 Originally filed application claim 17, which is the predecessor to claim 1 of the '479 patent,  
 21 read as follows:

22 17. A method of staining chromosomal DNA of a particular chromosome type or  
 23 portion thereof, or a particular group of chromosome types, the method comprising  
 the steps of:

24 providing a heterogeneous mixture of labeled nucleic acid fragments,  
 25 substantial portions of each labeled nucleic acid fragment in the  
 heterogeneous mixture having base sequences substantially complementary to  
 26 base sequences of the chromosomal DNA; and

27 reacting the heterogeneous mixture with the chromosomal DNA by in situ  
 hybridization.

Hoffman Dec., Exh. N at 47. Of particular note is that claim 17 recited a “heterogeneous mixture of labeled nucleic acid fragments,” without the “unique sequence” modifier. See id. The examiner rejected the claim under 35 U.S.C. section 112 for lack of enablement, noting that

the disclosure is enabling only for claims limited to reacting practice (last 2 lines of claim 17) which promotes at least some specificity of hybridization so as to stain only the desired target chromosome or portion thereof. As worded there is no specificity practice in the actual claim steps *that would result in staining of the target only without so much background that the desired target nucleic acid would be obscured.*

Id., Exh. O at 2 (emphasis added). In other words, claim 17 as drafted contained no provision for reducing nonspecific binding. This court noted precisely the same concern in its Markman order. Slip op. at 8–9.

In response to the rejection, the applicants cancelled the pending claims and submitted amended claims. Amended application claim 18, which is also the predecessor to claim 1 in the final patent, read as follows:

18. A method of staining target interphase chromosomal DNA to detect amplifications, deletions, and rearrangements comprising:

(a) providing a heterogeneous mixture of labeled unique sequence nucleic acid fragments which are substantially complementary to nucleic acid segments within the interphase chromosomal DNA for which detection is desired; and

(b) employing the heterogeneous mixture and interphase chromosomal DNA in in situ hybridization to permit detection of labeled nucleic acid fragments which are hybridized to interphase chromosomal DNA, wherein the chromosomal DNA is present in a morphologically identifiable cell nucleus during the in situ hybridization.

Hoffman Dec., Exh. P at 2. Although the claim language changed in several ways in the progression from claim 17 to claim 18—such as adding the types of conditions to be detected, the requirement that the process be performed on interphase DNA, and the “morphologically identifiable cell nucleus” limitation—the only changes to address the examiner’s concern regarding nonspecific binding were the addition of the phrase “unique sequence” and the clarification that the recited fragments are “substantially complementary to nucleic acid segments within the interphase chromosomal DNA for which detection is desired.”

1 The applicants did not provide a detailed explanation of the significance of their changes, but  
2 argued that the previous rejection under section 112 was moot in light of the newly drafted claims.  
3 The examiner accepted the applicants' argument that the change adequately addressed the  
4 enablement concern. Id., Exh. Q at 3–4. It is also apparent that the examiner recognized that the  
5 fragments in the heterogeneous mixture were intended to bond only to the target region, as  
6 demonstrated by the examiner's question as to whether use of the word "unique" was appropriate to  
7 cover "detecting apparently non-unique 'extra' chromosomes"—i.e., targets which occurred more  
8 than once per haploid. Id., Exh. Q at 4.

9 The dependent claims added as part of the same amendment are also revealing, as they do not  
10 include the later-added dependent claims which this court found to support Abbott's proposed  
11 construction. See id., Exh. P at 1–4. Dependent claim 12, which recites the inclusion of repetitive  
12 sequence fragments in the heterogeneous mixture, was not added until March 1999, almost two-and-  
13 one-half years after the applicants added the "unique sequence" limitation. Id., Exh. V at 2.

14 The cited excerpts are significant because they evince a disclaimer of methods employing  
15 labeled repeat sequence fragments, the inclusion of which in the probe mixture would result in "so  
16 much background that the desired target nucleic acid would be obscured." Cf. id., Exh. O at 2.  
17 Based on the approaches to reducing nonspecific binding set forth in the specification, the applicant  
18 could have chosen to address the examiner's section 112 rejection in two ways: the addition of  
19 blocking nucleic acid to prevent the repeat sequence fragments from hybridizing to the target, or the  
20 elimination of repeat sequence probes from the heterogeneous mixture. By representing to the  
21 examiner that the amended claim, which did not include any limitation requiring blocking, addressed  
22 the problem of nonspecific binding, the applicants represented that the claimed heterogeneous  
23 mixture would not bind to undesirable locations—in other words, that the claimed mixture was free  
24 of repeat sequence fragments.

25 In addition, as the court observed in the claim construction order, the applicants argued to the  
26 examiner that "[u]nique sequence nucleic acid fragments are in contrast with, and free of,  
27 'repetitive sequence' nucleic acid." Slip op. at 10. The court previously noted in its Markman order  
28

1 that this definition for “unique” is compatible with Abbott’s proposed construction, which depends  
2 on the word “of” for inclusion of repetitive sequence fragments in addition to the unique sequence  
3 fragments which are expressly recited in the claim. Id. Viewed in the broader context of the  
4 purpose for adding the “unique sequence” modifier, however—overcoming the examiner’s rejection  
5 for inoperability—the applicant’s definition of the word “unique” provides further evidence that the  
6 applicant disclaimed embodiments using repeat sequence fragments and blocking as part of the  
7 amendment.

8 A patent applicant may relinquish subject matter through claim cancellation or amendment  
9 during prosecution. “The doctrine of prosecution disclaimer is well established in Supreme Court  
10 precedent, precluding patentees from recapturing through claim interpretation specific meanings  
11 disclaimed during prosecution.” Omega Eng’g, Inc. v. Raytek Corp., 334 F.3d 1314, 1323 (Fed. Cir.  
12 2003). Under the doctrine of prosecution disclaimer, which is distinct from prosecution history  
13 estoppel, the literal scope of claim terms is limited as a result of disclaimers made during  
14 prosecution: “a claim in a patent as allowed must be read and interpreted with reference to claims  
15 that have been cancelled or rejected, and the claims allowed cannot by construction be read to cover  
16 what was thus eliminated from the patent.” Id. (citing Schriber-Schroth Co. v. Cleveland Trust Co.,  
17 311 U.S. 211, 220–21 (1940)).

18 Here, it is clear from the file history that the “unique sequence” limitation was added to  
19 address the examiner’s concern about the lack of any claim element which would reduce nonspecific  
20 binding. Abbott’s proposed construction in this case—that the heterogeneous mixture might include  
21 repeat sequence fragments—is equivalent in scope to the broader claim limitation rejected by the  
22 examiner. Abbott cannot reclaim what it relinquished.

23 Abbott argues that the words “unique sequence” were added only to clarify that the  
24 heterogeneous mixture must contain *some* unique sequence fragments, in addition to whatever repeat  
25 sequence fragments might be present. In support of this argument, Abbott notes that as part of the  
26 same office action in which the examiner rejected claim 17 under section 112, the examiner also  
27 rejected claim 17 under section 102(b) as anticipated by three pieces of prior art. Two of the  
28



1 references described the use of heterogeneous mixtures of labeled repeat sequence DNA; the third  
2 reference described the use of labeled unique sequence DNA. Hoffman Dec., Exh. O at 3–4. Abbott  
3 notes that none of the cited references used a mixture of unique and repeat sequence fragments and  
4 argues that the modified version of claim 17 is distinct because it includes both.

5 Abbott’s alternate explanation is not plausible because the applicant did not distinguish the  
6 amended claim 17 from the cited prior art on the basis of the “unique sequence” limitation. Instead,  
7 the applicant distinguished the prior art by limiting the use of the claimed method to interphase DNA  
8 and by requiring that the method detect amplifications, deletions and rearrangements: “The prior art  
9 fails to disclose or even suggest the methods of staining target interface [sic: interphase]  
10 chromosomal DNA to detect amplifications, deletions and rearrangements, as now claimed.” *Id.*,  
11 Exh. P at 5. Also, as Dako correctly points out, the phrase “heterogeneous mixture” as defined  
12 generally in the specification for the ‘479 patent clearly includes unique sequence fragments: “In  
13 particular, chromosome specific staining reagents are provided which comprise heterogeneous  
14 mixtures of labeled nucleic acid fragments having substantial portions of substantially  
15 complementary base sequences to the chromosomal DNA for which specific staining is desired.”  
16 ‘479 patent at 3:51–56. Thus it was not necessary to add the “unique sequence” modifier to suggest  
17 that the heterogeneous mixture included some unique sequences.

18 Abbott also argues, as it did at the claim construction hearing, that the examiner must have  
19 understood the claim to include repeat sequence fragments when she allowed dependent claims 12  
20 through 14 to be added without objection. Abbott, however, does not cite any portion of the file  
21 history suggesting that the examiner considered the tension between her previous rejection under  
22 section 112 and her subsequent allowance of claim 12. Absent some explanation for or qualification  
23 of the otherwise clear disclaimer, Abbott is not entitled to recover the disclaimed scope. The court  
24 therefore modifies its construction of the phrase “heterogeneous mixture of labeled unique sequence  
25 nucleic acid fragments” to mean “a heterogeneous mixture of labeled nucleic acid fragments that  
26 includes only unique sequence fragments.”

1           B.     Literal Infringement of the ‘479 Patent

2           The parties do not dispute that each of Dako’s accused kits employs a mixture of nucleic acid  
3 fragments which includes repeat sequence fragments. Thus there is no dispute, given the revised  
4 claim construction, that Dako’s kits do not literally infringe the ‘479 patent.

5  
6           C.     Infringement of the ‘479 Patent Under the Doctrine of Equivalents

7           The prosecution history discussed supra is equally applicable in evaluating infringement  
8 under the Doctrine of Equivalents. See Terlep v. Brinkmann Corp., 418 F.3d 1379, 1385–86 (Fed.  
9 Cir. 2005) (relying on an amendment during prosecution both in determining the literal scope of a  
10 claim and in assessing infringement under the Doctrine of Equivalents). Determining whether  
11 prosecution history estoppel applies is a two-step process. First, if there was a narrowing  
12 amendment made during prosecution, a presumption arises that the applicant “surrendered the  
13 territory between the original claims and the amended claims.” Id. at 1385. The patentee may  
14 overcome the presumption by showing that “the alleged equivalent was unforeseeable at the time the  
15 amendment was made, that the alleged equivalent was tangential to the purpose of that amendment,  
16 or that there was some other reason suggesting that the patentee could not reasonably be expected to  
17 have described the insubstantial substitute in question.” Id. (citing Festo Corp. v. Shoketsu Kinzoku  
18 Kogyo Kabushiki Co., 535 U.S. 722, 740–41 (2002)).

19           Here, the addition of “unique sequence” to the claims was clearly narrowing, as it limited the  
20 claimed process to the use of unique sequence fragments in hybridization. Abbott does not attempt  
21 to argue that the use of blocking agents was unforeseeable (as it is discussed at length in the  
22 specification for the ‘479 patent) or that the abandoned equivalent was tangential to the purpose of  
23 the amendment. The court therefore concludes that none of the accused products infringes the ‘479  
24 patent under the Doctrine of Equivalents. Dako’s motion for summary judgment with respect to the  
25 ‘479 patent is therefore granted.

1 II. '841 Patent

2 A. Construction of "blocking nucleic acid"

3 The parties have stipulated that the phrase "blocking nucleic acid" in claim 1 of the '841  
4 patent means "fragments of repetitive-sequence-enriched DNA or RNA." Hoffman Dec., Exh. Y at  
5 2. The court will therefore consider whether the phrase as the parties have defined it covers the  
6 accused products.

7  
8 B. Literal Infringement of the '841 Patent

9 Abbott argues that most of the accused Dako kits, which indisputably employ PNA to block  
10 the binding of repeat sequence labeled fragments, also make use of DNA to perform a blocking  
11 function. With two exceptions, each accused product includes unlabeled "total human DNA" as  
12 well as unlabeled PNA. Chang Dec., Exh. I at 180:25–182:20. Abbott argues that total human DNA  
13 is rich in repeat sequences and serves a blocking function, therefore falling within the literal scope of  
14 the "blocking nucleic acid" recited in claim 1 of the '841 patent. Dako argues that total human DNA  
15 does not satisfy the claim limitation because it is not artificially "enriched" with additional repeat  
16 sequence fragments.

17 The parties' dispute has two separate components. First, although the parties purported to  
18 stipulate to a definition for "blocking nucleic acid," they apparently disagree as to the meaning of  
19 the word "enriched" in the stipulated construction. Abbott interprets "enriched" as meaning that the  
20 DNA must have a high ratio of repeat to unique sequences. Dako argues that "enriched" means that  
21 the ratio of repeat to unique sequences must be above that found in naturally occurring DNA.  
22 Although neither party addressed the proper claim construction in their briefs, both offered various  
23 citations to the intrinsic record at oral argument.

24 Assuming for the sake of argument that Dako's proposed interpretation is correct, Abbott  
25 also claims that the total human DNA used in Dako's kits may have a higher proportion of repeat  
26 sequences than naturally occurring DNA. At oral argument, Abbott claimed that total human DNA  
27 is generally manufactured by subjecting a single set of DNA to amplification. During the  
28

1 amplification process repeat sequence fragments are duplicated at a higher rate than unique sequence  
2 fragments. Thus the resulting DNA contains a higher proportion of repeat sequence fragments than  
3 normal human DNA.

4 The court finds that the record submitted in connection with Dako's motion is not developed  
5 enough to permit construction of "blocking nucleic acid" or application of the properly construed  
6 phrase to Dako's kits. The parties were unable to address the issue in detail in their briefs because  
7 Abbott did not disclose its literal infringement contention based on the total human DNA as part of  
8 its preliminary infringement contentions. See Hoffman Dec., Exh. BB. The court also notes that  
9 Abbott's representations at oral argument about the effect of creating large quantities of total human  
10 DNA through amplification appear to lack support in the current factual record. Abbott submitted a  
11 supplemental declaration from Professor David Pinkel in support of its contention that total human  
12 DNA can be an effective blocking agent, but the article attached to the declaration does not appear to  
13 describe the process by which total human DNA is manufactured. The only relevant passage the  
14 court has discovered describes the total human DNA as follows: "Placental DNA (Sigma) was  
15 treated with proteinase K, extracted with phenol, and sonicated to a size range of 200–600 base pairs  
16 (bp)." Supp. Pinkel Dec., Exh. A at 9139. This passage appears to describe the preparation of total  
17 human DNA without the use of amplification.

18 Without a clear record, the court must deny Dako's motion under Rule 56(f), subject to  
19 renewal at the point when a fully developed record as to the proper construction of "blocking nucleic  
20 acid" and the use of total human DNA in Dako's accused kits becomes available.

21 Two of Dako's products, however—the HER2 kit and the TOP2A kit—do not make use of  
22 total human DNA at all and therefore do not literally infringe the claims of the '841 patent. The  
23 court will therefore consider infringement under the Doctrine of Equivalents for those two products.

24  
25 C. Infringement of the '841 Patent Under the Doctrine of Equivalents

26 The "blocking nucleic acid" limitation was not present in the original claims of the '841  
27 patent, but was added during prosecution. The earliest claims of the '841 patent purported to cover  
28

1 “the generic invention where the repetitive sequences are disabled by any means.” Chang Dec.,  
 2 Exh. D at A-351. The claims ultimately pursued in connection with the ‘841 patent, however, were  
 3 limited by the applicant to methods in which “disabling is performed by selective blocking of the  
 4 repetitive sequences.” Id. The broader claims were pursued in connection with a divisional  
 5 application. Dako contends that the limitation of the claims to the use of blocking was a narrowing  
 6 amendment for a substantial reason related to patentability, giving rise to a presumption of  
 7 prosecution history estoppel.

8 Prior to the amendment in question, application claim 28 read as follows:

9 28. (Twice amended) A method of staining chromosomal DNA that can be used to  
 10 stain a particular chromosome type or portion thereof, or a particular group of  
 11 chromosome types or portions thereof, whether the targeted chromosomal sequences  
 are present at normal copy numbers for diploid or haploid cells or at higher copy  
 numbers, the method comprising the steps of:

12 providing a heterogeneous mixture that contains labeled nucleic acid fragments that  
 13 are substantially complementary to unique sequence regions of complexity of at least  
 35 kilobases (kb) in the targeted chromosomal DNA[;]

14 *disabling the hybridization capacity of repetitive sequences within said*  
*heterogeneous mixture;*

15 reacting the heterogeneous mixture with the target chromosomal DNA by in situ  
 16 hybridization; and

17 rendering visible the hybridized, labeled fragments.

18 Id. at A-221–22 (editorial notations omitted and emphasis added). Dependent application claim 99,  
 19 prior to the amendment in question, recited

20 [t]he method of staining chromosomal DNA according to Claim 28 wherein said  
 21 disabling step includes substantially blocking the labeled repetitive nucleic acid  
 fragments in the heterogeneous mixture by hybridization with unlabeled repetitive  
 22 nucleic acid fragments that are complementary to those in the heterogeneous mixture.

23 Id. at A-238.

24 The examiner rejected application claim 28 as anticipated by or obvious in light of a prior art  
 25 reference (“Weissman”) which disclosed the use of “single-copy” probes in hybridization. Id. at A-  
 26 318–21. In Weissman, repeat sequence probes were eliminated from the probe mixture “by  
 27  
 28

1 preassociation with total human DNA.” Id. at A-320. In response to the rejection, the applicants  
 2 cancelled their existing claims and added application claim 132:

3 A method of staining chromosomal DNA comprising:

4 (a) providing 1) labeled nucleic acid that comprises fragments which are substantially  
 5 complementary to nucleic acid sequences within the chromosomal DNA for which  
 6 staining is desired, and 2) blocking nucleic acid that comprises fragments which are  
 7 substantially complementary to repetitive sequences in the labeled nucleic acid;

8 (b) employing said labeled nucleic acid, blocking nucleic acid, and chromosomal  
 9 DNA in in situ hybridization so that labeled repetitive sequences are substantially  
 10 blocked from binding to the chromosomal DNA, while allowing substantial  
 11 hybridization of unique sequences within the labeled nucleic acid to the chromosomal  
 12 DNA.

13 Id. at A-348.

14 Dako argues that claim 132 is a narrowing amendment because it incorporates the limitations  
 15 of formerly dependent claim 99 into the previous independent claim 28. Incorporating the  
 16 limitations of a dependent claim into an independent claim is a narrowing amendment when it is  
 17 done to avoid a rejection:

18 Thus, the fact that the scope of the rewritten claim has remained unchanged will not  
 19 preclude the application of prosecution history estoppel if, by canceling the original  
 20 independent claim and rewriting the dependent claims into independent form, the  
 21 scope of subject matter claimed in the independent claim has been narrowed to secure  
 22 the patent.

23 Honeywell Int’l Inc. v. Hamilton Sundstrand Corp., 370 F.3d 1131, 1142 (Fed. Cir. 2004) (en banc).

24 Abbott argues that the amendment is not narrowing under Honeywell because although claim  
 25 132 requires the use of “blocking nucleic acid” to disable the hybridization capacity of the repetitive  
 26 sequence labeled probes, it is broader than claims 28 and 99 in other respects. For example, claim  
 27 132 omits any requirement as to the length of the unique sequence regions and does not require  
 28 “rendering visible the hybridized fragments.” The fact that the new claim may have broadened in  
 other, unrelated respects is not relevant to determining whether prosecution history estoppel applies  
 to the disputed element, as prosecution history estoppel is evaluated on an element-by-element basis.  
Id. at 1144 (“The scope of the patentee’s concession is determined on a limitation-by-limitation  
 basis.”); see also Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 344 F.3d 1359, 1367 (Fed.

1 Cir. 2003) (en banc) (“Festo VIII imposes the presumption that the patentee has surrendered all  
2 territory between the original claim limitation and the amended claim limitation.”). Here, limiting  
3 the methods of “disabling the hybridization capacity of repetitive sequences” to the use of blocking  
4 nucleic acid provided a basis for distinguishing Weissman, which used preassociation with total  
5 human DNA to remove repeat sequence probes prior to hybridization. See Chang Dec., Exh. D at  
6 A-351 (“Previously, the broadest claims had been directed to the generic invention where the  
7 repetitive sequences are disabled by any means, *the other major embodiment being by removal of the*  
8 *repetitive sequences. Claims to that subject matter . . . will be pursued in a separate application.*”)  
9 (emphasis added); id. at A-355–56 (distinguishing Weissman on the basis that “prior to the filing of  
10 the grandparent to the present application in January 1986, the direction of the art for unique  
11 sequence in situ hybridization involved careful selection of probes that did not contain repetitive  
12 sequences” and that “until the grandparent to the present application was filed in January 1986, the  
13 use of blocking copies of a sequence in in situ hybridization had been limited to testing whether a  
14 hybridization signal was due to repeat sequences.”).

15 Abbott also argues that claim 132 should not be viewed as a narrowing amendment because  
16 the applicant continued to pursue the broader claim in a divisional application. This argument is not  
17 persuasive because the fact that Abbott pursued the disclaimed subject matter in prosecuting another  
18 patent has no bearing on the proper range of equivalents for the claims of the ‘841 patent. As noted  
19 supra, the applicant disavowed the subject pursued in the divisional application, in the context of the  
20 ‘841 patent, by adding the blocking limitation. Id., Exh. D at A-351 (“Claims to that subject matter .  
21 . . will be pursued in a separate application.”).

22 Abbott also argues that the amendment is not narrowing because the applicant separately  
23 disagreed with the merits of the examiner’s rejection. See Chang Dec., Exh. D at A-353–59. As  
24 already noted, the applicant distinguished Weissman on the grounds that it suggests removing repeat  
25 sequence probes from the mixture prior to hybridization, rather than using blocking DNA during  
26 hybridization. See id. at A-355 (“prior to the filing of the grandparent to the present application in  
27 January 1986, the direction of the art for unique sequence in situ hybridization involved careful  
28



1 selection of probes that did not contain repetitive sequences.”). The flaw in Abbott’s argument is  
2 that the cited passage attempts to distinguish Weissman from *the revised claim*, 132, and not from  
3 the previous claim 28. See id. at A-353 (“the following remarks will address only those rejections  
4 which pertain to the new claims.”). In other words, the applicant felt it was necessary to distinguish  
5 the prior art cited by the examiner even after filing revised claims. The applicant’s arguments are  
6 not an attempt to preserve some of the scope of the previously rejected claims; thus the cancellation  
7 of claim 28 and the submission of claim 132 constitutes a narrowing amendment. Specifically, the  
8 submission of claim 132 presumptively narrowed the scope of the invention from “disabling the  
9 hybridization capacity of repetitive sequences” using any means (as recited in claim 28) to using  
10 “blocking nucleic acid” to accomplish the same function.

11 Having concluded that a narrowing amendment took place, the court must next consider  
12 whether “the alleged equivalent was unforeseeable at the time the amendment was made, that the  
13 alleged equivalent was tangential to the purpose of that amendment, or that there was some other  
14 reason suggesting that the patentee could not reasonably be expected to have described the  
15 insubstantial substitute in question.” See Terlep, 418 F.3d at 1385. Abbott argues that the purpose  
16 of the amendment was “to pursue in separate applications claims involving other embodiments of  
17 the invention that do not involve blocking.” Brief in Opposition at 23. While Abbott’s  
18 characterization of the purpose may be valid when considered from the perspective of the applicant’s  
19 attempts to pursue multiple patents on the same parent application, from the narrower vantage point  
20 of the prosecution of the ‘841 patent, the purpose of the amendment was to overcome the examiner’s  
21 rejections under sections 102 and 103. This purpose—to narrow the methods of eliminating repeat  
22 sequences in order to avoid prior art—is directly related to the “blocking nucleic acid” limitation.

23 Abbott also argues that the critical distinction over the prior art was the use of “blocking”  
24 generally rather than some other method of disabling hybridization, and did not depend on the  
25 particular type of blocking used. Abbott argues that Insituform Technologies, Inc. v. CAT  
26 Contracting, Inc., 385 F.3d 1360 (Fed. Cir. 2004) found an alleged equivalent to be only tangentially  
27 related to the purposes of amendment under similar circumstances. In Insituform, the patent covered  
28



1 a method of repairing underground pipes by installing a liner inside the pipes. Id. at 1362–63. Prior  
2 to installing the liner, the liner had to be filled with resin, which the claimed invention accomplished  
3 through the use of a vacuum pump. Id. During prosecution of the patent, the claims were amended  
4 to avoid prior art which located the vacuum pump at the end of the liner, but required the use of a  
5 large vacuum pump as a result. Id. at 1370. The patentee added the requirement that the vacuum  
6 pump use a single cup attached at the middle of the liner, rather than at the end. Id. The accused  
7 product employed multiple cups, and the alleged infringer argued that the use of multiple cups was  
8 disclaimed as a result of the narrowing amendment. Id. The Federal Circuit disagreed, holding that  
9 the location of the vacuum pump at the center of the liner, rather than the number of vacuum cups,  
10 provided the critical distinction over the prior art: “[t]here is no indication in the prosecution history  
11 of any relationship between the narrowing amendment and a multiple cup process, which is the  
12 alleged equivalent in this case.” Id. Thus the use of multiple cups was not disclaimed as part of the  
13 narrowing amendment. Id.

14 Here, according to Abbott’s characterization, the focus of the narrowing amendment was on  
15 the use of blocking. Blocking using unlabeled nucleic acid is a subspecies of blocking in general;  
16 thus the specific choice of blocking agent is not unrelated to the use of blocking in the same way that  
17 the number of vacuum cups is unrelated to the location of the vacuum. The exception applied in  
18 Insituform Technologies is narrow, as the Supreme Court noted in Festo. A narrowing amendment  
19 raises a presumption that the resulting element is confined to its literal scope. The presumption can  
20 only be overcome by a showing that “at the time of the amendment one skilled in the art could not  
21 reasonably be expected to have drafted a claim that would have literally encompassed the alleged  
22 equivalent.” Festo, 535 U.S. at 741. Abbott has not demonstrated that it would have been  
23 unreasonable or even difficult to claim the use of blocking generally, if, as Abbott claims, the use of  
24 blocking provided the relevant distinction over the prior art. Blocking using PNA is thus excluded  
25 from the scope of equivalents covered by the amended claim.

26 Dako’s motion for summary judgment of noninfringement of the ‘841 patent as to the HER2  
27 and TOP2A products is therefore granted.

1     III.     Contributory and Induced Infringement


2             Abbott further alleges that Dako is secondarily liable for infringement of the patents under  
3 principles of contributory and induced infringement. No contributory or induced infringement  
4 exists, however, absent direct infringement by a third party. Here, with the exception noted above  
5 for certain products under the '841 patent, use of the accused kits does not directly infringe either  
6 asserted patent. Thus Abbott's secondary liability arguments are unavailing.

7  
8     CONCLUSION

9             For the foregoing reasons, the court GRANTS IN PART Dako's motion for summary  
10 judgment of noninfringement. As to the '479 patent, Dako's motion is GRANTED in its entirety.  
11 As to the '841 patent, Dako's motion is GRANTED for the HER2 and TOP2A products and  
12 DENIED without prejudice for the remaining accused products.

13  
14  
15             IT IS SO ORDERED.

16  
17  
18     Dated: July 31, 2006

19                               
20                             MARILYN HALL PATEL  
21                             District Judge  
22                             United States District Court  
23                             Northern District of California  
24  
25  
26  
27  
28

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

**ENDNOTES**

1. The court points out that it is not the court's responsibility to comb the record in search of evidence or arguments not raised in the parties' briefing. That is the lawyers' job. Had this been done in the claim construction phase this issue would have been resolved at that time—the proper time—and would not need to be revisited here.